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Landscape-gardening.

PUBLIC attention has recently been directed in this city to several enterprises seriously affecting the future of the public parks. Among them are the creation of the Botanical Garden, the transference of the Zoölogical collection from Central Park to one of the newer pleasure-grounds, the proposed erection of the Soldiers' and Sailors' Memorial, and the alteration of the entrance to Central Park at Fifth Avenue and Fifty-ninth Street. In none of these cases has the best course been pursued to secure the best result. Whether the advice of experts has not been asked or it has been asked and not respected.

The fact that in so many instances, happening within a short space of time, mistaken efforts have been combatted, but without full success, proves that we are awakening to the truth that expert knowledge is required for the protection of our parks, but that we do not yet really appreciate either its nature or its value. And this means that we do not yet appreciate the individuality and the importance of the art of landscape-gardening.

More interest is felt in this art, both by the public and by artists in other branches, than was felt a few years ago. Yet the old idea that any person, ignorant of art but possessing a "feeling for nature," is competent to decide any question with regard to a naturalistic pleasure-ground has not yet died out. And, on the other hand, those who are expert in artistic questions of some different kind do not yet understand that, nevertheless, they may be incompetent to deal with problems of naturalistic landscape-gardening.

This branch of the art of gardening is of much more importance to the American people than the branch which concerns itself with the creation of formal pleasure-grounds. Of course, the borders of the two branches overlap; but naturalistic ideals are those which, in the great majority of cases, can best serve the needs of American communities. Only in the narrow environment of city buildings, and in the immediate vicinity of large and stately edifices which stand in more open situations, are formal gardening schemes demanded in this land and age. Vast formal pleasure-grounds, such as were created around the palaces of the Old World for the delectation of the frequenters of luxurious courts, are inappropriate to the needs of modern times; and this is especially true in our democratic country. Our parks, large and small, exist for the greatest good of the greatest number; and this good can best be secured by making them, within the bounds laid down by art, as much like Nature's landscapes as possible. Only in this way can they fulfill the need of the populace for rest and refreshment, and bring Nature's peaceful, soothing, inspiring influences to bear upon the minds and bodies of those who live and toil amid the noise and stress of modern civic conditions; and only thus can they be genuine and characteristic works of American art, expressing the ideals and the temper of American civilization. The question of relative beauty need not be discussed. It need not be inquired which is more beautiful in itself, a great formal rich man's pleasure-ground like the royal park at Versailles or a great popular pleasure-ground like Prospect Park in Brooklyn, for it is certain that a popular pleasure-ground is the one which American tastes and practical needs require.

Probably no one will deny these assertions. The disputes which constantly arise in respect to our parks spring merely from disagreements in regard to what bounds art lays down for their treatment. But here the divergence is wide. The average citizen seems to think that, as a public park is for the public good, anything and everything which any section of the public desires ought to be provided within its borders. The average "lover of Nature" believes that Nature herself has set the bounds and prescribed the scheme for its beauty; that the artist should blindly respect everything she has created on the given site or, introducing needful work of his own, should make it as deceptively natural-looking as possible; and that, once his park is ready for use, Nature alone should care for its vegetation; and the average architect believes that a naturalistic park is a concession to the taste, or lack of taste, of our inartistic time; that it should, therefore, be made as little naturalistic as possible; that it should contain as many formal passages and ornamental structures as can be compassed, and that these should be considered of primary importance.

But widely apart as these extremists stand, their misconceptions are based upon the same error. Neither of them perceives that naturalistic gardening is in itself a true and noble art, an independent art, with special ideals and laws and boundary lines which cannot be well understood except by those who have given them special and sympathetic study.

In these pages an effort has more than once been made to explain, as well as brief words could do it, the aims and expedients of this branch of gardening-art, which was born, at the close of the Renaissance period, with the birth of modern civilization, and has perhaps received its fullest and finest expression in this country. Such an effort cannot be repeated now. To-day we merely wish once more to call attention to the dignity, the individuality and the essentially American character of the art of landscape-gardening, and to warn our people once more not to allow themselves to forget the need of experts to guard as well as to create their parks, and not to mistake the meaning of the word expert. A man is not necessarily an expert in park matters if he accepts the office of park commissioner, or if he is a practiced botanist or horticulturist or engineer, or if he is a passionate lover of Nature, or if he has taste and experience in artistic works of other kinds. He is an expert in park matters only if, with inborn artistic taste and an understanding of the needs of our people to help him, he has thoroughly studied landscape gardening itself and its application to American conditions. The engineer may have a portion of the needful wisdom, and so may the architect, the botanist, the horticulturist, and the business man familiar with large financial undertakings. But not either one of them nor all of them together can have the power to design a naturalistic pleasure-ground well or to maintain it properly.

Different dangers have threatened American parks at different times; just now in this city, at least, they seem to be specially threatened by the danger that the architect

will confidently assert his ability to design and to conserve them, and that the public will endorse his claim, believing him to be an expert. In one sense his art stands closer to that of the landscape-gardener than any other. Both concern themselves with the production, not of merely ornamental objects, but of objects of practical utility destined for actual occupation or frequentation by human beings; and the work of laying out formal gardens has a close æsthetic as well as practical affinity with architectural work. But here the parallel ends. Naturalistic gardening has very little æsthetic affinity with architecture. Symmetry and definite balance, mathematically exact proportioning, unity achieved by the repetition of conspicuous forms and features, and harmony achieved by the reiteration of subordinate ornamental motives—these are merits so characteristic of the art of architecture that, whenever we see them achieved in other arts, we say that the result has an architectural kind of beauty. But they are not the merits for which the landscape-gardener strives. He strives, indeed, for unity and harmony, for balance of parts and for appropriateness in the use of ornamental details; but he achieves them by avoiding symmetry and obvious repetitions, by appearing to treat each passage in his work for the sake of its individual importance and yet by combining them in subtile ways, often inexplicable in words, into a coherent artistic whole. The student of Oriental art will get a glimpse of his ideals when we recall the fact that the Chinese were the earliest landscape-gardeners, and say that, as modern architecture—with its helper, formal gardening—has come down to us in a straight line from classic art, so landscape-gardening has come down to us in a straight line from early Oriental art. It is not now in America the same art that it was in ancient China, any more than our buildings are the same as those which the Egyptians, Greeks and Romans knew. But the general ideal has been preserved in the one case as in the other. The radical difference between the ideals of the architect and of the landscape-gardener therefore lies in the fact that the one secures unity, harmony and beauty by the use of symmetry, the other by its avoidance.

This is the great reason why the modern architect, unless he has also made a special and sympathetic study of landscape-gardening, should not pose as an expert in park matters. The better architect he is, the less likely he is to understand the aims of an art so radically unlike his own in its ideals, or even to confess that it is as true and worthy an art as his own. Other things being equal, a landscape-painter is much more likely to understand the beauty and therefore to realize the needs of a naturalistic park than an architect. He knows that a natural landscape is not always beautiful, but often needs to be "arranged" before it can be turned into a picture; and he knows that this may be done without injury to its naturalistic character. He understands how composition—meaning a beautiful harmonious arrangement of lines and colors, of masses and voids, of lights and shadows—may be achieved without symmetry; he knows how balance may be secured without an obvious opposition of equal parts, how details may be made truly ornamental without reiteration, and how all this may be done in accordance with binding artistic laws and yet the general result seem spontaneous and natural.

Of course, on the other hand, the landscape-painter cannot be expected to understand those practical problems which, in the making of large parks, are of equal importance with æsthetic problems. He is not an engineer, he is not a horticulturist, and he is not experienced in regard to the needs and habits of masses of people seeking refreshment in the open air. Thus we come back to our main proposition: No one is experienced in all these matters except the man who has studied the making of naturalistic parks in and for itself. There are not many such men in our country. There are some, however, and they alone have the right to be regarded as experts. And until the public on the one hand and the artistic professions on the other recognize this fact and act in accordance with it, our parks will never for a day be really safe from educated or ignorant vandalism.

Notes on Cultivated Conifers.—XII.

CEDRUS, which is confined to the Atlas Mountains of Algeria, the Island of Cyprus, the Lebanon, the Cilician Taurus, and to the mountains of northern India and southern Thibet, is a well-marked genus of three species, with scattered primary and tufted secondary persistent leaves, solitary staminate flowers on the ends of short spur-like branches, and erect cones with thin, entire, rounded, persistent scales. The type of the genus, Cedrus Libani, is one of the most magnificent of all cultivated conifers in those regions like some parts of England and France, where it really flourishes. The Cedar of Lebanon is not hardy, however, in Massachusetts; it barely survives in the neighborhood of New York, although a few years ago there was a fairly good specimen on the grounds of the old Prince Nursery, on Long Island; it is more successful further south and there are a number of healthy plants near Philadelphia and Washington. On the whole, the Cedar of Lebanon must be considered a failure in eastern North America. All the cultivated plants, however, are derived from seeds raised in Europe on trees taken from the original Lebanon stock, and it is quite possible that if plants were raised from seeds obtained from the high Cilician Taurus, a more northern and a colder region than the Lebanon, they would prove as hardy here as the Cilician Fir, another conifer of the same region. This would be an interesting and useful experiment to make, but, unfortunately, it appears practically impossible to find any one in the central part of Asia Minor to gather the seeds. The Algerian Cedar (Cedrus Atlantica) is rather more hardy than its near relative of the Lebanon, and small plants of the beautiful blue-leaved form of this tree have lived for the last two or three years in Mr. Hunnewell's pinetum. It is more vigorous, however, further south, and the best plants of this form which I have seen in the eastern states are at Biltmore, North Carolina. The Himalayan Cedar (Cedrus Deodara) has not proved a successful tree in Europe, where it has been planted in large numbers; it is not at all hardy here at the north, but I have seen healthy plants in Georgia and other southern states, and in California.

Larix, the Larch, is closely related to Cedrus, but the leaves are deciduous; the male flowers are borne on lateral branches of the previous year, and the much smaller cones with scales shorter than the bracts in some species, are at first nearly horizontal, and then assurgent. The genus, which is widely distributed over the boreal and elevated regions of the two hemispheres, is composed of about seven species, which are generally large trees and produce strong, durable and very valuable timber.

The Larch which has been most planted in the eastern states is Larix Larix, the Larch-tree of the mountains of central Europe, where it sometimes grows in extensive forests, and frequently forms the timber-line either alone or with the Spruce and Stone Pine. This Larch has been largely planted in Europe for timber, especially in Scotland, and successful experiments have been made with it as a timber-tree in New England. It is very hardy here and grows rapidly even in dry gravels, but, like the native species, it is now frequently disfigured by insects which kill the leaves during the early summer and weaken the trees, although they usually cover themselves with a second crop of leaves. In very early spring the Larch is lovely with the tender green of its young foliage, but later in the season the leaves often have a rusty look, due perhaps to the heat and dryness of our summers; and this Larch, which seems to belong only on rough mountain sides, appears, with its small regular branches and straight pyramidal habit, out of harmony with round-headed trees and out of place in pastoral landscapes. There is a form of Larix Larix with distinctly pendulous branches (var. pendula) of Swiss origin,

and now common in cultivation, which is curious rather than handsome; and Beissner describes other abnormal forms which I have not, however, seen. The Siberian Larch (var. Sibirica) is now generally considered a geographical form of the European species. It forms great forests on the plains of Russia and Siberia, and grows also on the Ural and Altai Mountains. This tree, so far as I know, has not been sufficiently tested in the United States.

Much more picturesque than the European species is our native Larix larcina. This inhabitant of northern swamps grows to a large size when transplanted into dry ground, and sends out long and often contorted branches. It is this tree which may often be seen in great beauty standing near old New England farmhouses and country mansions, and as an ornamental tree the eastern American Larch, which has been neglected in recent years, may well be used much more freely than it has been.

In Larix occidentalis of the high interior Columbian basin of the north-west Larix displays its greatest size and nobility of port, and furnishes to the world one of its great trees. From 150 to 200 feet in height, with a tall massive trunk from seven to ten feet in diameter and covered with bright cinnamon-red bark broken into thick enormous plates, the western Larch is one of the most beautiful and impressive trees of the continent, and in strength of timber surpasses all other American conifers.

Long neglected by the cultivators of exotic trees because David Douglas, who introduced most of the trees of the north-western part of this continent into English gardens, mistook it for the eastern species, Larix occidentalis was first cultivated in 1880 in the Arnold Arboretum, whence it has been distributed among many of the principal tree-lovers of the United States and Europe. Seedling plants of this Larch grow badly here and still remain small and stunted, but grafted on the roots of the Japanese species it has grown rapidly and vigorously, and the largest plants, now about eighteen feet in height, have already produced a few cones. The second species of western North America, Larix Lyallii, is a small alpine tree found only at the timber-line on some of the high mountains of southern Alberta and the adjacent parts of the United States. It has not been introduced into cultivation, and probably would grow very slowly at the sea-level. Even in its best condition, this Larch has little to recommend it to the lovers of ornamental trees.

The Japanese Larch (Larix leptolepis) is common at elevations of from 5,000 to 6,000 feet above the sea, scattered always in small groves mixed with other deciduous trees, and is confined to the central part of the main island. It is a handsome tree, seventy or eighty feet tall, with pale blue-green foliage and a massive trunk covered with reddish bark, and in habit is not unlike the European species. Larix leptolepis is perfectly hardy in eastern Massachusetts, and the large specimen which stood for nearly thirty years in Mr. Hunnewell's pinetum produced annually abundant crops of fertile seeds. Although it grows here very rapidly, the Japanese Larch is certainly inferior as an ornamental tree to the native species, and it probably will never become popular in this country. There is an alpine form of this tree (var. Murrayana of Maximowicz—Larix Japonica, Murray) which grows on Fugi-san at an elevation of about 8,500 feet, and differs from the common form only in its dwarfer habit, shorter branches and smaller cones. This plant has been raised in the Arnold Arboretum from seeds which I brought from Japan five years ago. It is, of course, too soon to form any idea of its value here. And this is true of Larix Dahurica, which is a large tree not unlike the European Larch, and possibly only a geographical form of that species, which is widely distributed through Siberia, northern China, Manchuria, Kamtschatka and Saghalin. Young plants of this Larch are growing well in the Arboretum, where they give promise of success, as do seedlings of the form of this species which reaches the extreme northern part of Yezo and the Kurile Islands (var. Japonica of Maximowicz—Larix Kurilensis of Mayr) (see GARDEN AND FOREST, vol. vi., fig. 76).

The Himalayan Larix Griffithii has been raised several times in the Arboretum, but the seedlings have soon died, and I have never seen anywhere a good plant of this Larch, which in its native mountain forests of Nepal, Sikkim and Bootan is a slender tree sixty or seventy feet in height with long thin pendulous branches and elongated cones larger than those produced by any other Larch-tree, and conspicuous for their long exserted bracts.

Pseudolarix, like Ginkgo, is a monotypic Chinese genus known only from trees cultivated in temple gardens. It resembles Larix in its clustered deciduous leaves, but differs from that genus in its stalked, elongated, pendulous male flowers, borne in umbels at the ends of short spur-like lateral branchlets, and in its deciduous cone-scales, which separate from the central axis as soon as the cone ripens. Little is really known yet of this interesting tree either in Europe or America. Fortune, who first saw it dwarfed in Chinese gardens, finally, in 1854, discovered some trees near a Buddhist monastery in Che-kiang, which he estimated to be from 120 to 130 feet in height with trunks five feet in diameter, and sent the seeds to England. If it is cultivated at all in Japan I failed to notice it there, and Rein in his exhaustive work on that empire does not mention Pseudolarix, so that this tree is known outside of China only from specimens less than fifty years old. The largest tree I have seen is in the Rovelli Nursery at Pallanza, Italy, and is now probably nearly forty feet high; on the grounds of the old Parsons Nursery in Flushing, Long Island, there is a plant nearly as large, and in Mr. Hunnewell's pinetum there is one that has produced fertile seeds for several years. Pseudolarix Kæmpferi, as the species is called, appears to delight in hot dry summers, and will probably succeed in our northern states better than in western Europe. I have never seen a plant which appeared to suffer from heat or cold, fungal diseases or the attacks of insects. The Golden Larch, so named probably because the leaves turn bright clear yellow in the autumn before falling, is one of the most promising of the exotic trees which are on trial in this country, and now that plants in Europe and America are beginning to produce seeds, it will soon be possible to test it here more thoroughly than it has been in the past. The young trees have more the habit of Cedrus than of Larix, with long branches usually pendant at the extremities, and generally a broad flat-topped rather than a pyramidal head.

Pseudotsuga, a barbarous and entirely inappropriate name, half Greek and half Japanese, has been inflicted on one of the most beautiful and valuable of all American conifers, the great Douglas Spruce of western North America. The genus is pretty closely related to Abies, from which it differs, however, in its petioled leaves, pendulous cones with persistent scales always much shorter than their conspicuous three-lobed bracts, and in the structure of the seeds, which are destitute of resin vesicles. There are two species in western North America, and in Japan, judging from the figure of a cone recently published in a Japanese botanical periodical, there is evidently a third about which, however, nothing as yet appears to be known to the outside world.

The Douglas Spruce, Pseudotsuga taxifolia, is one of the largest and most widely distributed trees of the continent. Near the shores of Puget Sound, where it grows in the greatest perfection, individuals between three and four hundred feet in height, with trunks ten feet in diameter, are not rare, and trunks even larger can occasionally be found. Trees nearly as large grow on the western slope of the California Sierra, but in drier interior regions where the Douglas Spruce is found on nearly all mountain ranges southward to Mexico and eastward to Wyoming, the outer range of the Rocky Mountains in Colorado and to the mountains of western Texas, it is a smaller tree, usually not more than 100 feet in height, with a trunk only four or five feet in diameter. The Douglas Spruce was introduced into English gardens nearly seventy years ago by David Douglas, and its value as an ornamental tree in

western Europe is shown by the existence there of specimens already more than 100 feet high, with long lower branches sweeping the ground. The first attempt to cultivate this tree in the eastern states with plants, doubtless of Oregon or California origin, imported from England, were not successful, as they were generally unable to adapt themselves to our dry, hot summers. But in 1861 Dr. C. C. Parry found the Douglas Spruce in Colorado, and from the seeds which he sent to the Harvard Botanic Garden plants were raised which have proved perfectly hardy here. The largest of these are now more than twenty-five feet high, densely clothed to the ground with vigorous branches, and perfect in color and density of foliage.

This demonstration of a fact that plants of the same species, raised from seeds gathered in different parts of a wide territory with different climatic conditions, is interesting, as it indicates that it may be possible to cultivate other trees here which have heretofore been considered tender, if specially selected seeds are used. In the case of the Douglas Spruce several American nurserymen have not been slow to take the hint, and during the last ten or fifteen years great numbers of the Colorado form have been planted in New England, where the plants are growing rapidly into handsome, healthy trees, promising, if it is safe to judge by the appearance of this tree in its native forests and in Europe, to surpass here in permanence and mature beauty the other conifers of western America.

The second American species of Pseudotsuga (P. macrocarpa) is a small tree found only on the arid mountains of southern California, which has never been tested here and could never support the cold of a northern winter.

The next and final number of these notes will be devoted to Abies, the only remaining genus of Coniferæ which furnishes hardy plants to our northern gardens.

C. S. S.

Lilium parvum and L. parviflorum.

In his *Synopsis of all the known Lilies*, published in 1875, which is still the best authority for the nomenclature of this noble genus, Mr. Baker treats Lilium parvum, L. Walterii and L. parviflorum as varieties of L. Canadense. In the *Botany of California*, published in 1880, Dr. Watson follows Dr. Kellogg, who first described L. parvum, considering it a distinct species, and accurately describes Kellogg's typical form, but assigns to it a far more extensive range than it really possesses. Dr. Watson quite overlooked the other forms. At a still later date some English authority gave the name of L. pardalinum, var. minor, to one of the forms of L. parviflorum, which is now quite generally known in European gardens under that name.

I believe that a much more natural grouping would be to confine the name Lilium parvum to Kellogg's typical form, and to include all of those forms with more or less reflexed or revolute flowers under L. parviflorum. Following this division, therefore, I will proceed to speak of the typical L. parvum of Dr. Kellogg, the L. Canadense, var. parvum, of Baker.

Lilium parvum is a lily of high and subalpine regions in the central portion of the California Sierras. So much of the Sierra Nevada is unexplored by botanists that it is hard to set close bounds to the range of a species, but I have good evidence that the species does not extend to Plumas County on the north or farther than the Yosemite Valley on the south. It is found at an altitude of from six to nine thousand feet, and is common along the snow-fed streams which flow into the Truckee and Lake Tahoe on the east, and into the Yuba and American rivers on the west, as well as about the edges of the Tamarack swamps of that elevated region. It is not infrequent at an altitude where the snow lingers until July and August, and is again seen in September or October.

Lilium parvum is a charming little lily, well worthy of general cultivation. The soil in the localities where it is found is a granite sand rich in vegetable matter and the drainage is good. It can hardly be called a Bog Lily. The stems are slender and leafy, and both stems and leaves are light green. The leaves are from long ovate to broadly lanceolate. There are a few whorls, but many leaves are scattering. The flowers are horizontal or ascending, funnel-formed, with only the tips spreading and a brilliant orange-red in color, dotted with maroon, with the tips a brighter red. They are from an inch and a quarter to an inch and three-quarters long. The size of the plants varies greatly. About the swamps they are often from one to two feet high and few-flowered, but along the banks of streams plants from three to five feet high and many-flowered are common. The bulbs of L. parvum are very small. Selected bulbs will not average above one-fifth of an ounce in weight, and measure an inch and a half in length by half an inch in width. They are rhizomatous, and thickly covered by three or four jointed scales which produce a beautifully-laced effect. They do not have runners like L. Canadense, nor do they ever branch and form mat-like clumps as is the habit of L. pardalinum. Not one bulb in 500 is branching or produces two stalks. Some years ago this Lily was distributed by Messrs. Hallock & Son, Queens, New York, under the name of L. pardalinum, var. alpinum.

In bulb, leaf and capsule Lilium parviflorum resembles L. parvum, but is stouter and larger, as a rule. In size the bulbs sometimes approach those of L. pardalinum in size, but the four-jointed scales and lace-like effects are constant features, and the bulbs seldom branch and never form the matted clumps so distinctive of the latter species. The stems may be very stout and tall, but the broader leaves, paler foliage and rounder, shorter capsule sufficiently distinguish it. There are many forms prevailing over more or less extensive regions. In some forms the flowers are as revolute as those of L. pardalinum, but they are smaller and fragrant, and this species comes into bloom several weeks before L. pardalinum. Mr. Baker says that L. parviflorum bears its flowers in an umbel, and I do not question the correctness of the statement as regards his specimen. Several Californian Lilies carry their flowers in umbels when there are few, and in racemes when there are many. Mr. Baker describes L. rubescens as umbellate, but it is only so when few-flowered.

The commonest form of Lilium parviflorum is the one distributed as L. pardalinum, var. minor, by some dealers, and still more widely sold as L. parvum. It has a flower like a small reddish orange L. pardalinum, and is found in the middle belt of the Sierra Nevada from Tulare County, in the south, to the base of Mount Shasta. Plants grown from bulbs collected at different points along this line are hardly distinguishable, and plants from Crater Lake, Oregon, seem identical. There is no reason to doubt that L. parviflorum in some of its forms extends into British Columbia, as mentioned in Baker's Synopsis.

On the Sierras, in Plumas County, especially on Lassen's Butte, Lilium parviflorum has subalpine forms which are indistinguishable from the typical L. parvum except that the flowers are tardily reflexed from the middle. For several days they are apt to remain broadly campanulate. In the same region the form is found described by me in *Erythea* in October of this year as L. parvum, var. luteum, which, by the division of L. parvum that I now propose, would become L. parviflorum, var. luteum. This very handsome little Lily is like L. parvum in every particular excepting that the small revolute flowers are a clear orange-red, brightly dotted with scarlet.

I might mention that a clear orange form of the true Lilium parvum has been figured in Europe as L. parvum, var. luteum. It has funnel-formed flowers. The L. Canadense, var. Walkeri, of Baker's Synopsis, I have never seen, and there are doubtless many other transitional forms belonging to this group, but L. parvum and the type of L. parviflorum are practically all which have been cultivated thus far.

Ukiah, Calif. *Carl Purdy.*

New or Little-known Plants.

Prunus Davidiana.

NUMEROUS references have been made in the columns of this journal to the beauty of Prunus Davidiana as a flowering plant. It is a small bushy tree, discovered about thirty years ago by the Abbé David, who found it in the neighborhood of Pekin and also near Gehol, the summer residence of the Emperor of China. Botanically interesting as being somewhat intermediate in character between the Peach and the Plum, Prunus Davidiana is the earliest of all the Peach-like trees to flower in this climate, and, although the tree and its flower-buds are very hardy, the flowers are occasionally killed by late frosts. Prunus Davidiana has fruited in Paris, and more freely in the south of France, but in this country it has not, so far as we have heard, produced any of its small thin-fleshed fruits, which have no comestible value. The pale pink and white flowers, however, are lovely enough to compensate for the want of fruit and make this one of the most desirable of small early-flowering trees.

Fig. 64.—Prunus Davidiana.

Our illustration on this page, made from a photograph for which we are indebted to Mr. James M. Codman, of Brookline, Massachusetts, shows a bunch of flowering branches of this tree from the Arnold Arboretum.

Calopogon pulchellus.

SOME years ago one of the illustrated journals gave a sketch, with this legend: First tourist, "And how do you like Venice?" Second tourist, very bewildered, "Venice! why, is this Venice? I thought it was Milan; the itinerary says we are to be in Milan to-day." This is the typical state of mind of plant collectors who try to fit their newly-found plants to the descriptions found in either scientific manuals or popular hand-books. The description is grasped with a tenacity worthy of a better cause, while the charm of variation is quite lost sight of; consequently, when plants varying even slightly from the accepted description are found they are looked upon as something rare or unique.

The common descriptions of Calopogon usually read as follows: "Plant about one foot high, bearing from two to six flowers; color, magenta." *The Dictionary of Gardening* is even more modest and reduces the number of blossoms from "two to three," based on the plants figured in *The Botanical Magazine* of 1790*, which were the first specimens seen in England. Mr. Baldwin alone seems to really have seen Calopogons as they are commonly found, and in the *Orchids of New England* gives from three to nine blossoms as the ordinary number.

In the bogs of Adams and Franklin Counties, Pennsylvania, where they are very numerous, the plants vary from ten to twenty inches in height, and bear from six to fifteen flowers, eleven being an average number during midseason, both early and late ones having fewer blossoms. The season is longer than that of any other native Orchid, except the inconspicuous Spiranthes, and lasts from late in June until about the beginning of August.

The plants figured on page 505 were gathered late in June and represent the most ordinary specimens found by the hundreds in the South Mountain meadows. The coloration is generally given as "magenta," which seems to me too harsh a term, as they are only magenta when removed from their setting of bog-moss and grasses. The sepals and petals are usually of the same tone throughout, occasionally the wings are lighter, and generally the ridges of the labellum are white in their lower portion.

In a small area selected for daily observation, the plants ranged from one having pure white blossoms, with light green stigmatic surface and anther-lid, through very pale pink, to those with ordinary deep pink tones. The latter in almost every instance bore many more flowers than the paler specimens, the white one having only three blossoms, though these were of unusually large size. The deep-toned specimens averaged half as many filled seed-pods as there were blossoms; in no plant that was observed were all the seed-pods developed, and in no case at all of the white or very pale specimens were any seed-pods filled, or the pollinia even removed, so the attraction for insects appears to depend not only on the kind of color, but the degree, those having a purplish tone bearing more seed-pods. This agrees with the accepted theories of color, but other localities may show different results.

The Calopogons bear transplantation, and were not only grown in England a century ago, but are among the American Orchids mentioned by Mr. Meehan as having been successfully cultivated by the Comte de Paris (see page 484 of this volume of Garden and Forest). They are not among our most showy bog-plants, but they are certainly very pretty, with a certain distinction that entitles them to consideration as worthy of protection, for the meadows where they grow naturally are more and more disturbed by the plow, so that in a few years we shall look in vain for a single plant, where now hundreds may be found. This has happened with many of our wild animals which have been hunted to extermination, and is happening to more of our wild flowers than most persons realize. Unless those interested in the preservation of our native plants endeavor, as wild land is needed for cultivation, to transfer to protected places some of our woodland and meadow beauties, we shall in a little time find them only in the botanical gardens of large cities.

Harrisburg, Penn. *M. L. Dock.*

* Garden and Forest, vol. vii., p. 80.

Correspondence.

An Amateur's Experiment.

To the Editor of Garden and Forest:

Sir,—The articles entitled "Harmony in Country Places," "Native Plants for Ornamental Planting," and "What Can be Done in Nine Years," in recent numbers of Garden and Forest, have reminded me in so many things of my own experience in endeavoring to carry out my plans for a suburban home, that I think some of your readers may be interested in a brief account of the results of seven years of experiment, and the methods by which comparatively satisfactory results have at last been reached. The term experiment should, in this case, be emphasized, since the undertaking was not only such at the beginning, but continues so.

Besides lack of previous experience in such matters there was much to contend with in the situation and other local conditions. The grounds slope rather steeply to the south, more gently to the west, and the terraces and banks face in the same directions, thus exposing the greater part of the surface to the summer's sun; besides, the ground being a very hard clay, overlaid by a few inches of excessively poor soil, or in places none at all, a far greater amount of rain or use of the hose is necessary than on a level or more friable surface. This disadvantage proved so serious that my choicest trees and shrubs were killed by drought during the five years when they were dependent entirely upon rain and water carried by hand, and each summer, after the middle of July, it was impossible to prevent the grass from burning to the roots on those portions of the lawn and terraces not protected by shade. Now, however, having Potomac water and some eighty feet of hose, nothing has been lost from drought within the last two years, and the lawn continues green until seared by freezing weather.

It should be mentioned that my place is a small one, only 150 feet square (appropriately half an acre in area), fronting for that distance on two streets, which form the west and south boundaries, the latter marking the lowest level of the plot. Crossing the lower portion diagonally a military road had been built during the war, leading to a fort which crowned one of the neighboring knolls. The grading of this road produced the only level ground on the premises, and likewise a bank averaging about three feet in height along the upper edge. The only fair-sized trees on the place grew upon this old road and below it, some dozen or fifteen slender and rather tall Scrub Pines (Pinus Virginiana), about forty to fifty feet high. Ranged along the top of the bank were four fine bushes of Cornus circinata, several young flowering Dogwood-trees, occasional clumps of smooth Sumach, a few other shrubs and young trees, a slender Persimmon-tree growing between two of the latter Pines and nearly of the same height, and a tangle of Greenbrier (Smilax rotundifolia) which overran a portion of the shrubbery and clambered into the lower branches of the Persimmon. From this fringe of shrubbery and small trees the slope leading to the upper limits of the place was covered with a jungle of young Scrub Pines, intermixed with Blackberry brambles, Sumachs (Rhus glabra and R. copallina), Sassafras sprouts, weeds and coarse grasses, and a few small Red Cedars.

The first step toward improvement consisted in the building of the fence, a procedure hastened by the discovery that my larger Pine-trees had been blazed, and a fine Cedar cut down by a small boy of the neighborhood, who had become the proud possessor of a new, and evidently sharp, hatchet. The fence consisted of Cedar posts set three feet deep and connected by wire netting four feet wide.* The glaring scars on the Pine-trees were coated with liquid grafting wax and have quite grown over. Soon after the fence was built roots of Japanese Honeysuckle were dug up from a piece of sandy ground in the neighborhood, where this hardy and beautiful climber had taken complete possession,† and planted on the inside, one at each post and one or more at the middle of each panel. These roots have developed, with assistance in the way of training and pruning, into a hedge which I believe cannot be surpassed in beauty, compactness and durability, and is far superior, in my estimation, to any hedge of shrubs which

* The height of the fence was afterward reduced to three feet by cutting off both posts and wire at the top, and the wooden top rails (2 x 4 scantling), which were continually sagging and rotting in the middle, replaced by double wire cable, which, besides being permanent, binds the posts together far more firmly.

† This plant is abundantly naturalized in the vicinity of Washington.

can be successfully grown in this climate, being entirely unbroken, quite evergreen, and deliciously fragrant when allowed to bloom.

FIG. 65.—Calopogon pulchellus.—See page 504.

It was my original plan to grow only native plants. This somewhat risky departure from prevalent custom was prompted by several considerations, chief of which were the greater interest to me of native plants as subjects of study and from past associations, the necessity of placing a definite limit to my selections, and last, but by no means least, a desire to show others how beautiful our native trees, shrubs and vines really are in cultivation. I was much disappointed that a suitable native woody climber could not be found with which

to cover the fence; but as one was desired which could be pruned closely into a formal compact hedge, none appeared to meet the requirements, at least among those whose hardiness in this climate was not more or less doubtful.* A careful examination of the woody growth upon my lot revealed the presence of a very respectable nucleus for the collection which I proposed to make, the specimens marked for preservation numbering nearly two dozen species. Most of the trees were seedlings or of but a few years' growth, while none were more than thirty years old, the largest—the tall Scrub Pines before mentioned—having grown from a road constructed and used during the war. Adjacent unimproved grounds yielded about fifteen additional species, so that I had already at hand sixteen species of trees, eleven of shrubs and nine of woody climbers before recourse was had to the nurseryman.

With the exception of one Gordonia Altamaha and one Catalpa speciosa, nothing was purchased for the collection until the autumn of 1891, when a considerable number of species not obtainable in the neighborhood were planted; additions have been made each year, until there are now established on the place more than 130 woody plants which are native to the country east of the Mississippi River and south of the latitude of New York. Of these forty-eight are trees, fifty-seven shrubs and twenty-seven woody climbers. The number of herbaceous species is unknown to me, but these embrace many of the more interesting or beautiful kinds, as Lilium superbum and L. Grayi, Trillium grandiflorum and T. sessile, several Irises and Orchids, including Goodyera pubescens and the rare Tipularia discolor, here locally common; Lilies of-the-valley, from the mountains of North Carolina; Anemones, Buttercups, Violets, including the beautiful Viola pedata; several Erythroniums, Aquilegia Canadensis, Dodecatheon Meadia, Dicentra eximia, and many Ferns. Among the larger species the scarlet Hibiscus (H. coccineus), perfectly hardy here, is most conspicuous.

The number of species of trees may seem entirely disproportioned to the area over which they are distributed, but with very few exceptions the kinds selected do not attain a large size, trees of small growth, as Hawthorns (four species), flowering Crab, Flowering Dogwood, Hercules Club, etc., prevailing; hence it will be many years, if ever, before serious overcrowding becomes evident; and by judicious arrangement ample space for lawn and continuous vistas are not lacking. The shrubs are, of course, grouped or massed, and, therefore, do not take up nearly the amount of room that might be supposed. The vines, being supported by the trees, do not require extra space, all the larger trees being utilized for this purpose. The naturally bare trunks of the tall Pines are densely covered with the evergreen foliage of the Crossvine (Bignonia capreolata), whose profusion of yellow and dark crimson flowers, hanging in wreaths and festoons, in early May glow brightly against their dark background. The same elegant climber clothes two good-sized Catalpas (C. speciosa) with its golden blossoms before the leaves of the trees are large enough to hide them, the great white panicles of the Catalpa appearing ten days to two weeks after the Bignonia has done blooming. Two rather short and wide-spread Pine-trees growing close together support not only the Bignonia, but also a Clematis Virginiana, which reaches to the topmost twigs. Other trees, chiefly Pines, are decorated with vines of the Trumpet-flower (two species or varieties), Wistaria frutescens, Celastrus scandens, Supple-jack (Berchemia volubilis), climbing Hydrangea (Decumarea barbara), Ampelopsis cordata and Virginia Creeper. In fact, climbers, both woody and herbaceous, have been used as freely as possible, not only on trees, but also on the veranda and on fences, and my chief regret is that suitable supports cannot be found for more of them.

Among the shrubs all the native wild Roses are represented, including the Cherokee Rose (here quite hardy and evergreen), trained over a rustic gateway, and several scandent clumps of the beautiful Prairie Rose, to my taste the most exquisite of all single Roses. All the Azaleas are likewise established, as well as Rhododendron Catawbiense and the Rhodora; but among them all there is no more charming shrub than Chionanthus Virginica, with its fragrant, lace-like flowers, or the graceful, wand-like Neviusia Alabamensis.

Unquestionably the finest trees in my collection are the even dozen Flowering Dogwoods (Cornus florida), all of which, with one exception, grew naturally from seed on the premises. It is the only tree that has been duplicated except Catalpa speciosa and Aralia spinosa (of which three and two, respectively, have been allowed), and I would far rather materially reduce the number of species than sacrifice one of my Dogwoods. Having plenty of room, they have grown into wide-spreading symmetrical trees, and in early spring are masses of white bloom, one tree having flowers averaging nearly four inches across. The only Dogwood-tree not grown on the place is one of the pink-flowered variety, obtained from Meehan. This has proved to be all that has been claimed for this variety. Among other trees for which space has been found is the American Smoke-tree (Cotinus Americanus), much inferior in bloom to the European species, but equaled by no other tree of my acquaintance in the brilliancy of its autumnal coloring, its large oval leaves turning bright scarlet and orange. The Hercules Club (Aralia spinosa) is one of the prizes of my collection; it is decidedly more beautiful, both in habit, foliage and flower, than the Chinese form, yet not a single specimen can be found in the parks of Washington, where its foreign relative has been considered worthy of a place. Our Aralia is, with the exception of Catalpa speciosa and perhaps two or three of the Magnolias, the most tropical-looking of all our trees, and is of exceedingly rapid growth.

Among the discouraging disappointments and various backsets which have attended my horticultural efforts may be mentioned the loss by drought of all my Andromedas, Kalmias, Rhododendrons, Stuartias, Gordonia Altamaha, Hydrangea quercifolia and many other of my choicest shrubs and young trees; the yearly blighting and disfigurement of the coral Honeysuckles by aphides and defoliation of wild Clematis by bugs; the ruin of the Robinias, especially the two arborescent species, by borers, while borers of another kind have destroyed, one by one, about half of the large Pine-trees; the stems of Euonymuses and Celastrus are encrusted with bark lice, just as they have attained a luxuriant growth, and they probably will have to be cut down and burnt; the larvæ of June-bugs have made havoc with the lawn, while the beetles themselves have mutilated the foliage of the young Oaks; rose-beetles last May utterly destroyed the unusually abundant blossoms of several large shrubs and of a Washington Thorn before they could make any show; all my Hawthorns and flowering Crab are infested with the Cedar fungus; Cypripedium spectabile will not bloom for me—the roots live and the leaves appear each spring, but before any flowers appear the stem rots off close to the ground; and the seeds of many herbaceous plants (Lobelia cardinalis among the number), repeatedly sown, refuse to germinate. Again, dealers persist in sending me what I do not order, so that my Sweet-shrub turns out to be another species with ill smelling flowers, though finer foliage (Calycanthus lævigatus), Lonicera flava becomes the yellow-flowered variety of L. sempervirens or else L. glauca, Cocculus Carolinus invariably puts out leaves of Menispermum Canadensis, and even Trillium grandiflorum comes up an unattractive Siberian plant for which I have no use.

Some things, however, have grown with a rapidity that is surprising, a Catalpa speciosa being the most remarkable example. This was discovered by accident in the fall of 1890, a natural seedling of that year, quite hidden by weeds and coarse grass of the then uncleared ground. In 1892 it bore two large panicles of flowers, and each succeeding year an increased number, the last two or three years producing a full crop of its showy and individually beautiful blossoms. It is now a sturdy tree twenty-two feet high, with a spread of twenty feet and a trunk girth of two feet.

Transplanting has been done both spring and fall, but the latter is beyond question the best season in this climate for most trees and shrubs. Such work has, however, frequently been carried on nearly throughout the winter, whenever the weather and condition of the ground were suitable; and one of the largest deciduous trees on the place, a Black Locust (Robinia Pseudacacia), was taken up from the woods and replanted January 16th, 1891. The great benefit of cultivating, manuring and (in summer) mulching around trees and shrubs has been very evident, specimens thus treated having in the same time grown far more rapidly than others of the same kind around which the grass was allowed to grow. Each spring, in March, a circle nearly equal to the ambitus in the case of the smaller trees, but of less extent for the larger ones, is carefully dug up round the base, and given a covering several inches deep of well-rotted cow-manure. In watering during very dry seasons a basin is made around each tree and filled from the hose, allowing the water to sink in and then refilling, until the earth about the roots is well saturated. The soil is then drawn back and covered with a light mulching of

* Possibly the Carolina Jessamin (Gelsemium sempervirens), which has thus far proved hardy on my place, might answer, although its small narrow leaves are against the probability that it would prove satisfactory even if it would stand severe pruning. To those who prefer a vine-covered fence to a hedge of the usual kind the matter is well worth experiment, and I would suggest not only the above-named climber, but also several of the Green-briers, especially the evergreen and lower-growing species. Bignonia capreolata will not answer, its growth being too rampant, the same being true of the Virginia Creeper.

dry grass cuttings or pine needles. One such thorough watering is quite sufficient to carry a tree in good condition through any ordinary season of drought.

Now, near the end of the seventh year of my experiment, I can look back and, through the many mistakes that have become evident, see how various things should have been done at the start. Most of them can be remedied, some of them cannot. Much work remains to be done in the way of transplanting, for at first, according to the custom of most amateurs, trees were planted much too near together and without due reference to their artistic arrangement. One tree intercepts what without it would be a beautiful vista; another is already bending away from the larger growth on one side, and certain shrubs whose mature stature had been underestimated, have quite outgrown the limits assigned to them. At the end of the last transplanting season I was congratulating myself that the hard work was practically done, and I had now before me only the pleasure of watching the progress of my plants; but one summer's growth has quite dispelled this illusion, and the approaching autumn will be scarcely less notable than preceding ones in the amount of digging and changing things about. This would be most discouraging were it not also evident that my ideal, while by no means yet attained, is (barring limitations which preclude the possibility of actual attainment) each year less remote.

Brookland, District of Columbia. *Robert Ridgway.*

Recent Publications.

The Geographical Distribution of Forest Trees in Canada. By Dr. Robert Bell.

This is a paper read a few months ago before the Scottish Geographical Society, and now issued in separate form from the *Scottish Geographical Magazine* of June, 1897. Dr. Bell has had exceptional opportunities for studying the northern distribution of the Canadian trees, as for forty years he has been engaged every year in exploring, in connection with the Canadian Geological Survey, the extreme northern regions of the continent east of the Rocky Mountains. In 1873 Dr. Bell prepared a map showing the northern limits of the principal trees in the four original provinces of the Dominion, and in 1879 a reduction of this sheet was published in the Report of the Montreal Horticultural Society and Fruit-growers' Association; and in the Report of the Canadian Geological Survey of 1882 he joined to another map a paper containing the latest information upon the northern range of thirty of the principal forest-trees which grow in Canada east of the Rocky Mountains. The present paper, which is accompanied by a map on which the northern distribution of these thirty trees is marked, must be considered a supplement to Dr. Bell's earlier papers, and contains the results of his own observations and those of other travelers and explorers in the far north during the last seventeen years, and these probably in the case of several of the species, at least, must be considered final; although such a comparatively small part of the interior of Labrador has yet been explored, that some changes in the limit-lines now laid down by Dr. Bell for that part of the country will doubtless be needed.

Dr. Bell has had so much experience and has studied so carefully the distribution of Canadian trees and the causes which control their different ranges that his conclusions are extremely interesting and valuable. He finds, for example, that "in approaching their northern limits some kinds of trees become gradually smaller and smaller, and are finally reduced to mere bushes before they disappear altogether, while others terminate abruptly or without any apparent diminution in the average size of the individual trunks. The latter habit is commoner in the southern than in the northern species, and it appears to prevail more in the eastern than in the western parts of Canada." He finds, too, that "it is probable that those trees which bear large numbers of seeds capable of being carried for some distance by the wind, such as the conifers and the Poplars, have now reached the extreme northern limits of their growth, but some other species may be continuing to extend their borders. Indeed, the general tendency appears to be to advance still farther north, as if many kinds of our trees had not yet had sufficient time to occupy all the territory congenial to their existence." In support of this theory Dr. Bell cites successful experiments which have been made in growing the Black Walnut in the neighborhood of Quebec, although the nearest place where this tree grows naturally is 500 miles farther to the south-west, showing that the range of this tree is capable of being extended over a much greater area than it yet occupies naturally. On Pelee Island, in Lake Erie, the most southern point in Canada, is the only place in the Dominion where the Honey Locust and the Kentucky Coffee-tree are known to grow naturally, although the former flourishes wherever it has been planted through the Ontario peninsula and down the St. Lawrence nearly to Montreal, and the Kentucky Coffee-tree grows to a large size in Ottawa. The Negundo, which has not extended its natural range east of the western end of Lake Superior, grows as well in Montreal, 900 miles further east, as it does in Manitoba, and the Black Ash is perfectly hardy on James Bay, 100 miles to the north of its natural range.

This ability of various trees to grow far from their existing homes is not attributed by Dr. Bell to any change of climate since they attained their present range, as there is no meteorological proof of such improvement, but because sufficient time has not elapsed to permit the "fullest possible territorial expansion of all the species. When frost alone operates to check the northward extension of a tree, there would appear to be no reason why such a species should not grow as far in that direction as it can ripen its seeds, even once in a number of years. When early frost happened to coincide with good seed years many seasons might intervene between crops of ripe seeds, and the natural progress of northward extension would be very slow. The Red Oak, which requires two seasons to ripen its fruit, would suffer a double disadvantage." Dr. Bell notices that the Beech, Elm and Black Ash seldom bear any fruit toward the northern limits of their range.

It is interesting to read that Dr. Bell considers "the greater dryness of the region between Red River and the Rocky Mountains is one of the principal causes of its treeless and partially treeless condition. The former country is called plain and the latter prairie. The other principal cause is the extremes of heat and cold. Some persons have jumped to the conclusion that the plains and prairies have resulted from repeated fires burning off pre-existing forests in modern times. If this were the case the tree-lines in their general westward course would all end abruptly at the edge of the burnt space, and some traces of the various species would still be found in the prairie region. But, instead of this, on approaching the prairie country they all curve gradually to the southward in a concentric fashion, so that what was the northern limit of each successive species now becomes in turn its western boundary. But if other evidence be required it may be found in the prairie flora, the absence of hollows with hillocks accompanying them, left by the bodily upturning of the roots of trees with a large quantity of earth attached, which are always to be found where forests have grown; the comparative scarcity of water courses, and the prevalence of regular rings of boulders around the edges of the nearly circular ponds which have resulted from the action of ice in a treeless region."

While it is probable that the treeless condition of the northern extension of the prairie region and of the plains as distinguished from the prairies, is due to insufficient moisture and to cold, it is evident that the absence of trees from the comparatively well-watered prairie regions of the United States can be largely ascribed to fires, which if they did not originally destroy the forest covering, have certainly prevented a growth of trees, because when the annual burning over of the prairies stopped with the settlement of the country by the whites, trees soon covered or attempted to cover the surface of the ground wherever there was sufficient moisture for tree-growth.

Unfortunately space will not permit us to make longer

m Dr. Bell's paper, which those interested in the subject will find one of the most important contributions to the knowledge of the distribution of the trees of north-eastern North America which has been made.

Notes.

Mr. J. G. Luehman, for twenty-eight years the assistant of the late Baron von Mueller, succeeds him as Government Botanist of Victoria, and has now been placed in charge of the National Herbarium of Melbourne, with the title of Curator.

A brilliant effect was produced in the table decorations at a private dinner in this city last week by the use of nearly 500 bracts of Poinsettia, which, in five baskets, were arranged on a bed of Asparagus. Many of the bracts measured from eighteen to twenty inches across.

With the completion of the third volume, *The Forester*, an illustrated monthly journal of Forestry, passes from the control of Mr. John Gifford, of Princeton, New Jersey, and in future will be published by the American Forestry Association. The new office of *The Forester* will be at No. 73 Cochran Building, Washington, District of Columbia.

The proposition to perpetuate the memory of William A. Stiles and his labors in behalf of the parks of New York, by naming one of the new small parks for him, has received the endorsement of many of the most prominent professional and business men of this city, whose Memorial has been presented to the Park Commissioners, with whom it rests to pay this fitting tribute to their late associate.

A Catalogue of Fruits has recently been published by the Division of Pomology of the United States Department of Agriculture. This useful and valuable bulletin is the work of a committee of the American Pomological Society, of which Mr. T. T. Lyon was the chairman. Such species and varieties of fruits and nuts as are recommended for cultivation in the United States and in British America are arranged in three divisions: Fruits mainly adapted to northern localities; subtropical and tropical fruits; native and introduced fruits and nuts grown in the open air. The entire region is divided into fifteen pomological districts, with primary reference to the influence of latitude, elevation, prevailing winds and oceanic and lacustrine exposures upon their adaptation to pomological pursuits. Comprehensive and carefully arranged tables show the size, form, color, texture, flavor, quality, season, use and origin, besides the districts in which a particular fruit succeeds.

Mr. James Bateman, who died at Spring Bank, Worthington, on the 27th of November, in his eighty-seventh year, will be remembered as one of the first and most enthusiastic cultivators of Orchids and as the author of *The Orchidaceæ of Mexico and Guatemala*, perhaps the most sumptuous and splendid volume which has been devoted to plants. This consists of a series of colored illustrations of life size of a large number of species of Orchids, with descriptive titles and cultural hints to which are added notes, literary, scientific, archæological and ethnological, the whole work being enlivened by humorous sketches and tale pieces from the pencil of George Cruikshank himself. Forty years ago Mr. Bateman's gardens at Biddulph Grange and Knypersley were famous all over Europe, with their Chinese garden, in which the scheme of a Willow-pattern plate was reproduced, their Egyptian court, their avenue of Sequoias, their groves of Sikkim Rhododendrons, their bulb gardens, Rose gardens, Dahlia gardens, their pinetum and their great collection of Orchids. This last, when Mr. Bateman came to reside principally in Kensington, he presented to the Royal Horticultural Society, to which for more than fifty years he was zealously devoted. His portrait, taken in 1871, is published in *The Gardeners' Chronicle* of December 4th.

At a secret session of the Board of Park Commissioners of the city of Buffalo, held on the 7th of December, Mr. William MacMillan, for twenty-six years the superintendent of the Buffalo parks, was summarily dismissed without even being informed of the nature of his offense. There have been differences of opinion between individual members of the Buffalo Park Board and its superintendent as to the wisdom of permitting the erection in the parks of museums and other buildings not intended for park purposes, and in some other matters about which we do not know all the details. No question, however, has ever been raised as to the strict honesty and conspicuous ability of Mr. MacMillan's administration. No one has ever doubted his integrity and entire devotion to the best interests of the city of Buffalo, and if, in opinion, he has differed from his commissioners in matters of park administration, he has, we feel confident, been governed solely by his sense of duty to the public. To those who know the Buffalo parks, that city has always appeared particularly fortunate in its park superintendent, who has shown himself one of the best park managers we have ever had in the United States, honest, intelligent, faithful and unbending to the improper demands of the spoilsmen. That the value of his services was appreciated by the people of Buffalo is shown in the numerous letters deploring the unprecedented action of the Park Commissioners, which have been published during the last two weeks in the journals of that city.

In a recently-issued circular, Mr. A. M. Herr, Secretary of the American Carnation Society, names, among the most popular varieties of Carnations now grown, Flora Hill as the best white sort; Harrison's White, Lizzie McGowan, Alaska, Mrs. Fisher and Nivea are other good white varieties which succeed under certain conditions. Mr. Herr considers the pink Triumph superior to William Scott for size of flower, productiveness and keeping qualities. William Scott and Daybreak are ranked as standard kinds. New varieties in this color are Emma Wocher and Victor. Abundance is recommended as a small flower for summer. Jubilee is considered the most brilliant scarlet, and Portia and Garfield are listed in this color. Buttercup is praised among yellow varieties, though it blooms sparingly. Eldorado is stated to be the only Carnation of this color which flowers freely enough to be a commercial success. The new Yellow Jacket carries abundant blooms, but is subject to rust. This disease is not considered a serious matter by Mr. Herr, as, notwithstanding its general prevalence, Carnations are improving. Another new yellow variety, Mayor Pingree, promises to bear freely. Iago, Anna Webb, Maceo and Empress are considered the best of the crimson varieties. Helen Keller and Armazindy are praised as the foremost among striped Carnations. The latter is described as bearing flowers of excellent form on stiff stems; not quite as bright as Helen Keller, and the most floriferous of all Carnations. Thomas Cartledge is said to be the only cerise Carnation which it pays to grow for the trade. Daybreak leads among salmon or light pink varieties, and Mrs. McBurney, one of Mr. Hill's introductions last year, is favorably mentioned.

The decks and saloons of the steamer "Magenta," from Keyport, New Jersey, have been crowded with fragrant stacks of manufactured Christmas greens during the past fortnight, and the volume of business has increased steadily until to-day, when the height of the season in the wholesale trade is reached. Nearly all the roping and designs used hereabout come from this portion of New Jersey. Roping has been in special demand this season, and that made of Ground Pine has found ready buyers at from $1.75 to $2.00 a hundred yards for the smallest size. Laurel roping is plentiful and may be bought in wholesale lots at from $1.00 to $2.00. From 10,000 to 15,000 yards of roping are used in the holiday decorations of each of several large department stores in this city, and churches have been more liberal customers than in recent years. The supply is ample, however; one manufacturer alone has more than twenty workers busily employed in Keanesburg, and besides hundreds of dozens of set pieces, has made up 100,000 yards of roping. Early snows in New Hampshire and Vermont, the region from which much of the Ground Pine is obtained, are responsible for a scarcity of material, as for its dull color. Stars and wreaths made of this graceful creeper are the most costly. Box, which is becoming scarcer each year, is used effectively in combination with grayish lichens, and sometimes the glossy leaves, with their aromatic suggestion of old gardens, are less pleasingly arranged as a foil to bright-colored immortelles. The available supply of Holly is more meagre than last year, but it is profusely berried, and some Holly from the neighborhood of Greenwich, Cumberland County, New Jersey, is unusually handsome, with large brilliant fruits. Loose branches, in cases, are coming from Delaware. Small wreaths made of Holly cost wholesale buyers from forty to eighty cents a dozen on the "Magenta." The supply of these wreaths from Keyport will be smaller than that of last year by from 2,000 to 3,000 dozens. Excepting the increased sale of roping and the manufacture of many large pieces in the design of stars there is no noticeable change in this industry. The season of the wholesale trade practically ends to-day, and the city dealers will be busy from now until Christmas eve disposing of their stock to housekeepers and other retail buyers.